LESSON 3.2

NAME _____ DATE _____

Practice A

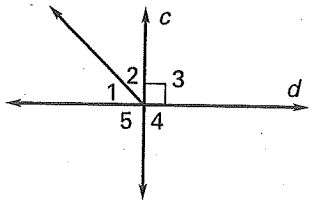
For use with pages 114–120

Complete the theorems about perpendicular lines.

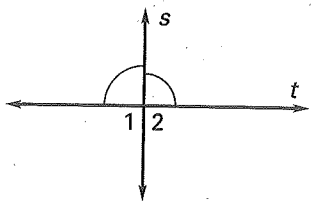
1. All right angles are __?__.
2. If two lines are perpendicular, then they intersect to form four __?__.
3. If two lines intersect to form adjacent congruent angles, then the lines are __?__.
4. If two sides of adjacent acute angles are perpendicular, then the angles are __?__.

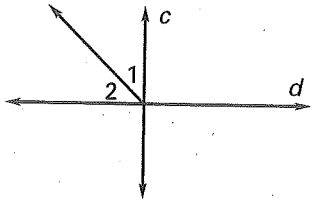
In the diagram at the right, $c \perp d$. Determine whether enough information is given to conclude that the statement is true. Explain your reasoning.

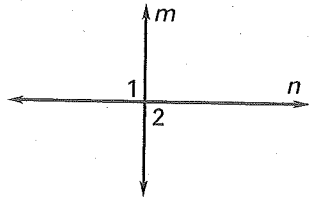
5. $\angle 3 \cong \angle 4$
6. $\angle 1 \cong \angle 2$
7. $\angle 5$ is a right angle.

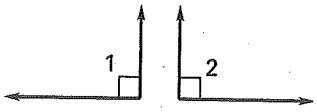


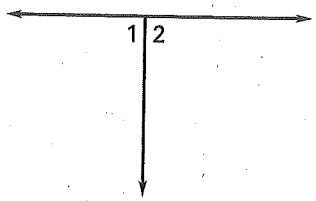
What can you conclude about $\angle 1$ and $\angle 2$ using the given information?

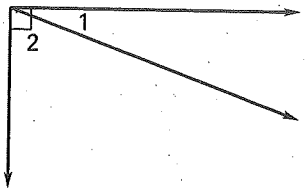
8.


9. $c \perp d$


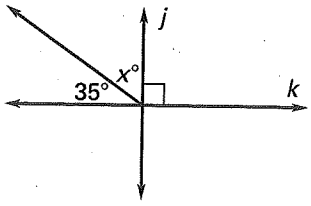
10. $m \perp n$


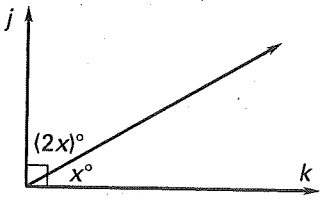
11.


12. $m\angle 1 = m\angle 2$


13.


Find the value of x, given that $j \perp k$.

14.


15.


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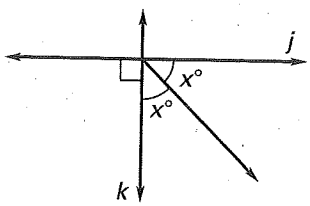
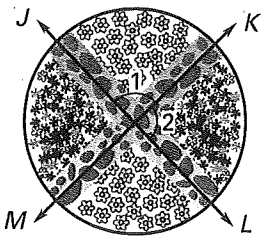


A flower garden is divided into four sections, as shown in the diagram at the right. Complete the statement.

17. If $\angle 1 \cong \angle 2$, then $\overleftrightarrow{JL}$ __?__ $\overleftrightarrow{MK}$.
18. If $\overleftrightarrow{JL} \perp \overleftrightarrow{MK}$, then $\angle 1$ is a __?__ angle.



Lesson 3.2

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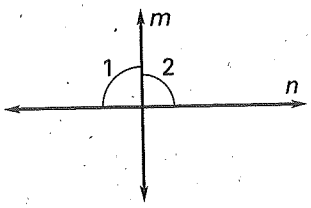
Practice B

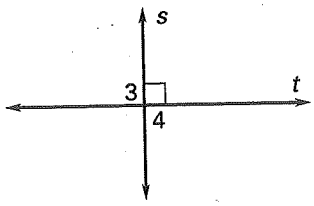
For use with pages 114–120

Write the theorem that justifies the statement about the diagram.

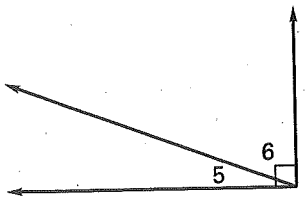
1. $m \perp n$



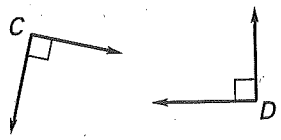
2. $\angle 3$ and $\angle 4$ are right angles.



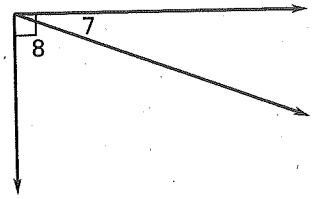
3. $\angle 5$ and $\angle 6$ are complementary.



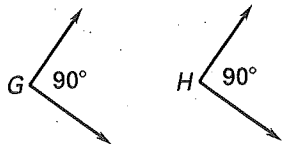
4. $\angle C \cong \angle D$



5. $m\angle 7 + m\angle 8 = 90°$



6. $\angle G \cong \angle H$



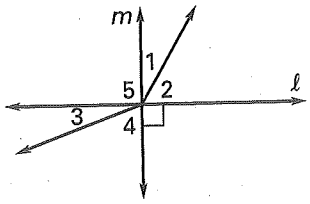
In the diagram at the right, $m \perp \ell$. Determine whether enough information is given to conclude that the statement is true. Explain your reasoning.

7. $\angle 5$ is a right angle.

8. $\angle 1$ and $\angle 2$ are complementary.

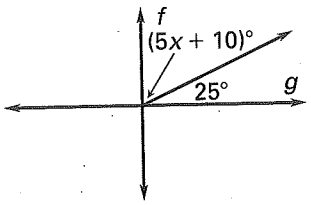
9. $\angle 4$ and $\angle 2$ are complementary.

10. $\angle 3 \cong \angle 1$

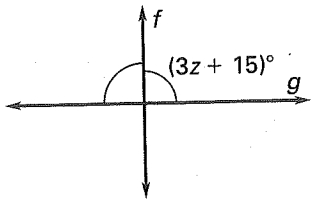


Find the value of the variable, given that $f \perp g$.

11.



12.



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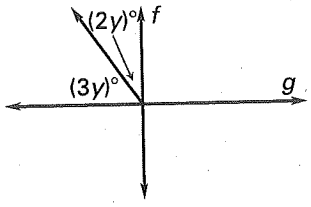


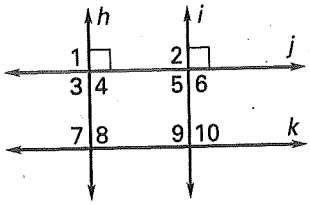
In the diagram at the right, $h \perp j$ and $i \perp j$. Determine whether enough information is given to conclude that the statement is true.

14. $\angle 10$ is a right angle.

15. $\angle 7 \cong \angle 8$

16. $\angle 2 \cong \angle 3$

17. $\angle 6 \cong \angle 7$



A sketch of a company logo is shown at the right.

18. If $\overleftrightarrow{BD} \perp \overleftrightarrow{AC}$, name four right angles.

19. If $\angle 1 \cong \angle 4$, name two lines that are perpendicular.